

paragraph, as containing subject matter which was not adequately described in the specification. Claims 1,2, 4-6, 8, 9, 23, 24, 26-28 and 47 were rejected under 35 U.S.C. 102(e) based upon Gleave et al. U.S. Patent No. 5,660,727 (Gleave). Claims 3, 7, 10-16, 25, 29-34 and 41 were rejected under 35 U.S.C. 103(a) over Gleave in view of Panetz et al. U.S. Patent No. 5,585,068 (Panetz). Claims 17-22, 29, 35-40, 42 and 43 were rejected under 35 U.S.C. 103(a) over Gleave in view of Averette U.S. Patent No. 5,147,551 (Averette). Claims 42 and 43 were rejected under 35 U.S.C. 103(a) over Gleave in view of Panetz further in view of Averette. Finally, claim 48 was rejected under 35 U.S.C. 103(a) over Gleave in view of Park et al. U.S. Patent No. 3,715,190 (Park). Each of the items raised by the Official Action is addressed in order below following a brief description of the present invention to provide context.

Claims 1, 23 and 47 have been amended to be more clear and distinct. Claims 44-46 have been cancelled without prejudice. Claims 1-43 and 47-65 are presently pending.

The Present Invention

The present invention relates generally to the manipulation of fluids and reaction vessels for improved universal fluid exchange, and, more specifically to methods and systems for delivery of fluids to and evacuation of fluids from a plurality of reaction vessels so that a plurality of locations are working at the same time. This is particularly advantageous for combinatorial chemical synthesis where a great deal of manipulation is required. Other aspects of the present invention address the provision of individually controlled heating and storing of the contents of the plurality of reaction vessels.

As illustrated in Fig. 4, for example, and as presently claimed in claims 1, 23, and 47, a plurality of reaction vessels 10 are supported by upper and lower carousel plates 62 and 64. The plurality of reaction vessels can then be rotated into alignment with the injection and evacuation

ports 20 and 22. As discussed in detail at page 10, line 19 through page 12, line 2, liquid may be delivered to and evacuated from any vessel in any sequence desired, under program control. Multiple vessels can be worked on at the same time.

35 U.S.C. 132 and 35 U.S.C. 112, First Paragraph Rejections

These rejections are related and are addressed together. These rejections are traversed on the basis that the objected to material is found in U.S.S.N. 08/337,268 "A Solid Phase Synthesis Reaction Vessel and Method of Using Same" filed September 29, 1995 which was incorporated by reference at page 7, lines 13-17. A continuation application U.S.S.N. 08/923,208 was filed on September 4, 1997, and U.S. Patent No. 5,851,494 issued on December 22, 1998. It is noted that as a result of a typographical error 337,268 rather than 537,268 was referred to. The filing date and title make clear that this is the application intended. The specification has now been amended to refer to this patent number rather than the application number. A copy of this patent is submitted herewith for review by the Examiner, and all of its disclosure or as much as desired by the Examiner will be added to the present specification by way of amendment. Applicants would like to defer this amendment until a discussion can be held with the Examiner as to whether such an amendment is necessary or how best to present this amendment to prevent confusion. To sum up, the material incorporated by reference supports the newly added claims. Consequently, the newly added claims do not add new matter and are adequately disclosed.

The Art Rejections

All of the art rejections hinge on Gleave which is entitled "Automated Analytes Supercritical Fluid Extraction Apparatus", and it addresses improvements relating to the extraction of various analytes from solid matrix samples using a fluid under elevated temperatures and pressures sufficient to cause the fluid to be in a supercritical condition as

addressed at col. 1, lines 20-23 and col. 2, lines 3-14, for example. As an initial matter, this is quite a different context than the "combinatorial chemical synthesis reaction tool" claimed in claims 1 and 47.

As seen in Gleave's figures, it appears that a cell, such as cell 22, is brought to a single location where a fluid coupling assembly 141, as seen in Fig. 6A injects fluids. It does not appear that fluid can be injected into multiple reaction vessels or evacuated from multiple reaction vessels as advantageously taught by the present invention.

Similarly, Gleave transports a cell to a single oven location where that cell is then heated rather than heating multiple reaction vessels at the same time.

The remaining references relied upon in the Official Action do not address Gleave's failing as a reference. Further, it would not be apparent that one would or should combine Gleave which focuses on supercritical fluid extraction with the other items which address different contexts and different problems. The claims as presently amended are not anticipated by Gleave, and are not obvious based upon Gleave taken in combination with the other items relied upon.

The Official Action specifically refers to col. 2, lines 14-16 of Panetz which indicate that it is desirable to "prepare samples for further analysis on either a batch or continuous basis." Panetz is entitled "Apparatus for Automatically separating a Compound from a Plurality of Discrete Liquid Specimens" and it is directed to "filtering or extracting constituents from solutions or solids". Col. 1, lines 11 and 12. Panetz delivers "sample preparation columns 50" into a transport disc 40. These columns 50 are best seen in Fig. 3 (side view) and Fig. 5 (top view). As discussed at col. 4, lines 24-27 of Panetz, "the term 'sample preparation column' is meant to include any form of housing having an inlet port and an outlet port with some

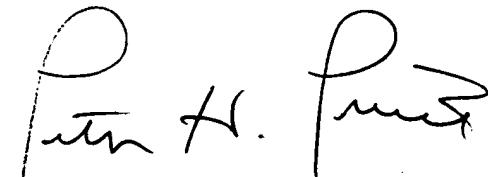
mechanical or chemical material for removing at least one substance from a fluid passing through the column." Such "columns" do not appear to meet the presently claimed "reaction vessels", but perhaps more importantly these columns and the overall arrangement of Panetz do not meet the presently claimed injection and evacuation ports and their respective fittings. As seen in Panetz Fig. 13, reagent "is delivered from a bottom orifice 107 of reagent nozzle 105 when reagent nozzle 105 is in the DISPENSE position". Col. 6, lines 62-64. A pressure head 70 comes into play when it is desired to deliver pressurized gas. Col. 7, lines 5-8. Like Gleave (supercritical fluid extraction), Panetz (automatic separation) addresses a distinctly different context than the present invention (combinatorial chemical synthesis reaction or universal fluid exchange).

The remaining references are relied upon to pick and choose features in an improper hindsight reconstruction of the present invention.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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